Oregon TECH

2017-18
Program Assessment Report Guide
Submission Deadline: October 31, 2018
to Office of Academic Excellence

This guide will show assessment coordinators the process of program assessment for 2017-18, including descriptions, examples and rubric measures for the annual program assessment report. Follow the guide description text in black while referencing the example text in blue and the rubric text in gray.

Section 1 – Program Mission

Describe the purpose of the degree program – why it exists and what distinguishes it from other units or programs. How is it aligned with the university's Core Themes (particularly Core Theme 1: Applied Degree Programs; and Core Theme 2: Student and Graduate Success)? This content will stay fairly static from year to year.

The mission of the Bachelor of Science in Nuclear Medicine and Molecular Imaging Technology (NMMIT) program at Oregon Institute of Technology is to prepare students to be successful in the field of Nuclear Medicine and Molecular Imaging. To be successful, graduates must demonstrate knowledge and skills that will allow them to be competitive in accessing employment, maintain their skills and abilities when employed, successfully pass the national registry examination in Nuclear Medicine, Computed Tomography, and/or Magnetic Resonance Imaging (MRI), and provide competent and compassionate care.

To support the Mission of the Bachelor of Science in NMMIT program at Oregon Tech, the program faculty have incorporated several courses to the curriculum to competitively differentiate our graduates and enhance their ability to be competitive in accessing employment. These courses include: Computed Tomography, MRI, and Mammography. In addition, students are encouraged to also enroll in the Advanced Computed Tomography and Advanced MRI courses offered in the Medical Imaging department during the Junior year. Faculty also develop and manage a cross section of clinical externship site opportunities for each student's fourth year of clinical training and education. These clinical externship opportunities are offered in a variety of geographical locations and hospital sizes to cater to diverse learning styles and to more effectively network graduates to employment opportunities.

The mission, objectives, and student learning outcomes for the NMMIT program are reviewed annually by the program and at the fall retreat during convocation. They are also reviewed annually by the Nuclear Medicine and Molecular Imaging Technology Advisory board.

Section 2 – Program Educational Objectives

Describe the educational objectives of the degree program – it exists to prepare students for what sorts of professional opportunities? Where is it intended that graduates end up – both immediately after graduation and five to ten years out. This content will stay fairly static from year to year.

The following objectives are what the faculty expect graduates from the program to be able to accomplish a few years after the commencement of their careers and stem directly from the program mission. The alumni from the NMMIT program at Oregon Tech should:

1. Perform as competent, compassionate and caring health care professionals.
2. Successfully pass the ARRT registry board exam in Nuclear Medicine & PET/CT, Computed Tomography, and/or Magnetic Resonance Imaging.
3. Pursue continuing education opportunities through online learning and/or local, regional, national conferences to satisfy registry and state licensure requirements.
4. Think critically, communicate effectively, and demonstrate professional ethics.
5. Apply radiation safety procedures for themselves, staff, patients and the general public.

Section 3 – Program Description and History:

This content will stay fairly static from year to year, and can be included in any reasonable order, but program enrollment, graduate, and employment, and (if applicable) board pass rates should be updated each year based on updated data.

- Program History
- Program Locations
- Program Enrollment
- Program Graduates
- Employment Rates and Salaries
- Board and Licensure Exam Results (if applicable)
- Industry Relationships
- Showcase Learning Experiences
- Success Stories – Descriptions of Successful Graduates (potentially including quotes from students highlight the programs' effective preparation)

The Nuclear Medicine and Molecular Imaging Technology program officially began in 1999 and is the only Nuclear Medicine and Molecular Imaging program in the state of Oregon. Enrollment trends from 2002-2018 have varied from 12 to 20 students per year in the program. By fall term of 2018, there were 56 students enrolled in the program. For the class of 2018, retention was 83.3% and attrition was 16.7%. Attrition was the result of (2) students failing to pass a course or courses, and (1) student dropping out and reconsidering Nuclear Medicine as a career path.

Program Location: **Klamath Falls Campus only for the didactic and laboratory education and training. Across the United States for the fourth year Clinical Externship education and training.**

Program Enrollment: 2014-2018

Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	5 Year Difference	5 Year % Change
48	48	49	53	56	8	17%

Program Graduates: 2009-2018

2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
15	15	16	16	15	14	14	15	14	15

Employment Rates and Salaries: 2017

Employed	Continuing Education	Looking for Work	Not Seeking	Median Salary	Success Rate
93%	7%	0%	0%	70,362	100%

Board Exam Results (if applicable):

American Registry of Radiologic Technology (ARRT)	
100% Pass Rate	Class of 2002-2018

Industry Relationships:

Oregon Tech Nuclear Medicine and Molecular Imaging Technology Advisory Board Meeting

Date: Friday, May 4 2017

Committee Members

- Rick Hoylman, NMMIT Program Director (present)
- Vanessa Bennett, Assistant Professor, NMMIT Program (absent)
- Wally Limbacher, Cedar Sinai, CA (present)
- Bert Marston, Providence, Portland, OR (present)
- Kori Welch, Providence St. Vincent, Portland, OR (present)
- Alyssa Marty, Renown, Reno, NV (present)
- Holly Rhodes, Sacred Heart, Eugene, OR (present)
- Tim Herrington, Sacred Heart, Spokane, WA (Zoom Video Conference)
- Megan Hatfield, Parker Adventist Hospital, Parker, CO (Zoom Video Conference)
- Beth Meysenburg, University of Washington, Seattle, WA (Zoom Video Conference)
- Kristine Hellige, Barnes-Jewish Hospital, St. Louis, MO (Zoom Video Conference)
- Chandler McElmurry, Kaiser, Clackamas, OR (present)
- Todd Merkley, Kadlec Hospital, Richland, WA (present)
- Cris Campbell, UC Davis, Sacramento, CA (present)

Notes on Discussion of Assessment Results

- Discussed registry statistics and 100% pass rate as well as performance compared to national average. Also discussed employment rates and locations for last (2) years.
- Performed FERPA training for all clinical instructors.
- Discussed and provided a workshop on scoring the Professional Evaluation for students and how to use the Probation policy. Solicited feedback on scoring changes and/or category changes on the evaluation.

Showcase Learning Experiences

Success Stories – Descriptions of Successful Graduates (potentially including quotes from students highlight the programs' effective preparation)

100% pass rate on the National Registry Board Examination in Nuclear Medicine and Computed Tomography.
100% employment rate.
2017 Median Salary of $70,362.

OREGON TECH PROGRAM ASSESSMENT REPORT RUBRIC (Sections 1, 2, 3)			
Program mission and educational objectives			
1 – Beginning	2 – Developing	3 – Good	4 – Exemplary

No mission statement or educational objectives are included.	Mission statement and objects are vague, unclear, or lack coherence. They are too general too general to distinguish it from other programs or are focused on the department rather than the program.	Mission statements and objective identifies the programs purpose, but needs some development. The statement might not be focused on learners as the primary stakeholders.	Mission statements and objective outline the programs purpose. (i.e., why the program exists and what the program does that distinguishes it from other units or programs). All points are included or well-developed. The wording of the statement is focused on learners as the primary stakeholders and is clear to a general audience.

Section 4 – Program Student Learning Outcomes

Identify your programs' 5-10 program learning objectives. This content should remain relatively static from year to year, although programs should regularly review outcomes both internally and with external partners to ensure that they remain current. Are there any changes to program student learning outcomes for 2017-18? If so, please provide this update. Link to Bloom's Taxonomy: http://oregonstate.edu/instruct/coursedev/models/id/taxonomy/#table

Resources on Program Student Learning Outcomes:

- https://manoa.hawaii.edu/assessment/howto/outcomes.htm
- https://www.jmu.edu/assessment/_files/How%20to%20Write%20Clear%20Objectives.pdf
- https://www.jmu.edu/assessment/_files/Objectives%20Made%20Easy.pdf

EXAMPLE: (Format is not mandatory, but is meant for guidance. Choose the approach that works for your program).

From these objectives stem a number of specific and measurable outcomes. In addition to being more specific, the outcomes state what students should be able to demonstrate while in the program and provide evidence that the objectives are also being met. Upon graduating from the BSCE program at Oregon Tech, students should possess:

a) an ability to apply knowledge of mathematics, science, and engineering
b) an ability to design and conduct experiments, as well as to analyze and interpret data
c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
d) an ability to function on multi-disciplinary teams

e) an ability to identify, formulate, and solve engineering problems
f) an understanding of professional and ethical responsibility as well as the importance of professional licensure
g) an ability to communicate effectively
h) the broad education necessary to understand the impact of engineering solutions in a global and societal context
i) a recognition of the need for, and an ability to engage in life-long learning
j) a knowledge of contemporary issues
k) an ability to use the techniques, skill, and modern engineering tools necessary for engineering practice
l) an ability to explain basic concepts in management, business, public policy, and leadership
m) an ability to evaluate concepts and ideas from alternative perspectives

PSLO #1. The student will demonstrate knowledge and application of radiation safety precautions and ALARA concepts by didactic examination and laboratory practical assessment.
PSLO #2. The student will demonstrate ethical reasoning through a variety of scenarios in lecture and lab, and adherence to professional responsibilities identified on their Professional Evaluation performed at the end of each term.
PSLO #3. The student will demonstrate knowledge and use of instrumentation in Nuclear Medicine by didactic examination and laboratory practical assessment.
PSLO #4. The student will perform nuclear medicine procedures using inquiry and analysis demonstrated on lab practical assessment.
PSLO #5. The student will demonstrate knowledge and uses of radiopharmaceuticals used in Nuclear Medicine by didactic examination and lab practical assessment.

OREGON TECH PROGRAM ASSESSMENT REPORT RUBRIC (Section 4)			
1 – Beginning	**2 – Developing**	**3 – Good**	**4 – Exemplary**
Outcomes: Clarity			
No outcomes stated.	Outcomes present, but with imprecise verbs (e.g., know, understand; things that are not measurable because they are internal to the student), vague description of content/skill/or attitudinal domain.	Outcomes generally contain precise and measurable verbs, rich description of the content/skill/or attitudinal domain. Outcomes describe how students demonstrate learning.	All outcomes (except those explicitly mandated by an accrediting body) stated with clarity and specificity including precise and measurable verbs (for example, from Bloom's taxonomy) articulating how students demonstrate learning, with rich description of the content/skill/or attitudinal domain.
Outcomes: Student-centered orientation			
No outcomes stated in student-centered terms.	Some outcomes stated (either explicitly or implicitly) in student-centered terms.	All outcomes at least implicitly have a student-centered orientation.	All outcomes explicitly stated in student-centered terms (i.e., "Students will...").
Outcomes aligned with Mission/Industry/Student Success			
No discussion of external validation of outcomes.	At a superficial level, it appears the learning outcomes are aligned with industry needs, but no explanation is provided.	General detail about how outcomes relate to industry needs or is externally validated is provided, but lacks detail or specificity. Little to no evidence of recent discussions (either internally or with external	External validation of outcomes is clearly articulated, through reference to outcomes originating from external accreditors, industry advisory boards, employer surveys, etc. and reflect Oregon Tech's

		partners) about the currency of program learning outcomes.	applied mission and reflect application of theory to practice. Evidence of recent program and external discussions about the continued relevance of learning outcomes.

Section 5 – Curriculum Map

Please complete a table with entire program curriculum with selection for PSLO and ESLO assessment at the Foundation, Practice and Capstone levels. This content should remain relatively static from year to year, but should be updated as the program curriculum map changes.

Resources to Guide Creation of Curriculum Maps:

- https://manoa.hawaii.edu/assessment/howto/mapping.htm

EXAMPLE: (Format is not mandatory, but is meant for guidance. Choose the approach that works for your program).

Nuclear Medicine & Molecular Imaging Technology B.S. Student Learning Outcomes Table

F – Foundation
P – Practice
C – Capstone

COURSE	PSLO 1	PSLO 2	PSLO 3	PSLO 4	PSLO 5	ESLO 1 Comm	ESLO 2 In & Acq	ESLO 3 Ethical Reason	ESLO 4 Teamwork	ESLO 5 Quant Lit	ESLO 6 Divers Persp
Wri 121,122 Sp 111						F					
Hum or Soc Scien							F				
SPE 221 (321)									F		
Chem 350											
Physics 217											
NMT 217 Patient Care		F						F			F
NMT 215 Rad Pharm	F			F	F					F	
NMT 212 Rad Physics											
NMT 205 NM Admin											
NMT 225 Instrum			F								
NMT 256 Cardiac											
NMT 311 Proc I						P				P	
NMT 312 Proc II	P	P		P			P	P			
NMT 367 PET/CT									P		
NMT 346 MRI											
BIO 346 PathoPhys											
NMT 355 C.T.											
NMT 313 Therapy											
NMT 325 Spect											
NMT 388 Ext Prep			P		P						P

NMT 410 Extern	C	C	C	C	C	C	C	C	C	C	C

OREGON TECH PROGRAM ASSESSMENT REPORT RUBRIC (Section 5)			
Outcomes are mapped to course/learning experiences and assessment plan			
1 – Beginning	**2 – Developing**	**3 – Good**	**4 – Exemplary**
No alignment of curriculum to outcomes.	Report contains a curriculum map connecting student experiences with some outcomes. Map is not clear or difficult to interpret.	Report contains a curriculum map clearly illustrating how each outcome is supported within the curriculum.	Report contains a curriculum map illustrating how the curriculum as a whole supports scaffolded, vertical development (e.g., on a scale of 1-3, or introduction, development, mastery) for each outcome for both program outcomes (PSLOs) and institutional outcomes (ESLOs).
Program doesn't demonstrate alignment of course activity with program learning outcomes.	Program asserts that course activity is at least somewhat aligned with program outcomes and points to some evidence to support this.	Program points to some materials (e.g. course syllabi on the T:/ drive) that indicate meaningful and regular attention to program outcomes in course design, but does not demonstrate thorough and consistent alignment between class activity and program outcomes.	Program points to publicly available materials (e.g. course syllabi, assignments, unit learning outcomes, class materials) which demonstrate thorough and consistent alignment in all course of relationships between course activity and program learning outcomes.

Section 6 – Assessment Cycle

Please complete a table to show PSLO and ESLO year cycle starting with this academic year. This content should remain relatively static from year to year, although it should be extended by at least one year each time a new report is submitted.

EXAMPLE: (Format is not mandatory, but is meant for guidance. Choose the approach that works for your program).

Nuclear Medicine & Molecular Imaging Technology B.S. Cycle for PSLOs and ESLOs

Outcome	2017-18	2018-19	2019-20
PSLO 1	Indirect Student Exit Survey	Indirect Student Exit Survey Direct Assessment NMT 215/312	Indirect Student Exit Survey
PSLO 2	Indirect Student Exit Survey	Indirect Student Exit Survey ER Direct Assessment 217/312	Indirect Student Exit Survey
PSLO 3	Indirect Student Exit Survey Direct Assessment NMT 225/388	Indirect Student Exit Survey	Indirect Student Exit Survey
PSLO 4	Indirect Student Exit Survey I & Q Direct Assessment NMT 312 Case study	Indirect Student Exit Survey	Indirect Student Exit Survey
PSLO 5	Indirect Student Exit Survey Direct Assessment NMT 225/388	Indirect Student Exit Survey	Indirect Student Exit Survey
ESLO 1	Indirect Student Exit Survey	Indirect Student Exit Survey	Indirect Student Exit Survey
ESLO 2	Indirect Student Exit Survey I & Q Direct Assessment NMT 312 Case study	Indirect Student Exit Survey	Indirect Student Exit Survey
ESLO 3	Indirect Student Exit Survey	Indirect Student Exit Survey ER Direct Assessment 312	Indirect Student Exit Survey
ESLO 4	Indirect Student Exit Survey	Indirect Student Exit Survey	Indirect Student Exit Survey Teamwork Direct Assessment NMT 367
ESLO 5	Indirect Student Exit Survey	Indirect Student Exit Survey	Indirect Student Exit Survey
ESLO 6	Indirect Student Exit Survey	Indirect Student Exit Survey	Indirect Student Exit Survey

OREGON TECH PROGRAM ASSESSMENT REPORT RUBRIC (Section 6)			
1 – Beginning	2 – Developing	3 – Good	4 – Exemplary
Current year's plan			

No activities/ courses listed for outcomes assessed during the current year	Activities/courses listed but link to outcomes is absent.	Most outcomes have classes and/or activities linked to them.	All outcomes assessed during the report year have classes and/or activities linked to them.
Multi-year cycle plan			
No formal assessment plan beyond current year.	Report contains a multi-year cycle outlining when assessment of all program student learning outcomes will occur.	Report contains a multi-year plan for assessment of learning outcomes, with courses identified for all assessment activities.	Clear, multi-year plan with several years of implementation (both past and future) outlined and clearly connected, with identification of courses and activities where assess will occur. Plan extends out at least far as the next assessment of any outcomes assessed during the report year.

Section 7 – Methods for Assessment

Each PSLO should be assessed with 2 direct measures and 1 indirect measure. Please provide the methods for assessment for this academic year. In many cases, it may make sense to organize this section by outcome and/or assessment activity, and to integrate description of methods, results, interpretation, and action plans. Description of methods can be completed as soon as assessment activities are identified (ideally in fall term of each academic year); Results, Analysis, and Action Plans should be completed after assessment data are collected.

Narrative for each assessment activity should ideally include:

- Description of the activity (assignment and its course context) and assessment method at a level that makes it clear that the activity is a reasonable measure of the outcome. Assignments can be attached as an appendix.
- Description of the rubric or scoring method, again at the level of detail that makes it clear the rubric is a reasonable tool to assess the outcome. Rubrics can be attached as an appendix.
- If relevant, discussion of parallels in assessment processes across sites. Although assessment processes do not need to be identical between different sites, the same measures should be assessed in comparable ways
- Identification of target performance criteria (and, ideally, a justification for why the targets were set at a certain level).
- Description of scoring process (Faculty raters? External raters? Multiple raters for reliability?)
- Clear presentation of results (and, where possible, comparison with past performance on the same outcome).
- Description of how results were presented to and discussed by program faculty.
- Interpretation of results, including discussion of factors such as assignment design, course context, instructor, etc., that may have impacted student performance.

Students in both the NMT 215 and NMT 312 courses, offered during Winter term in our curriculum map, will receive a Radiation Safety Assignment that will ask students to identify five actions steps that can be taken to reduce radiation exposure to themselves and to patients within a Nuclear Medicine department. Students will also be asked to identify various radiation transport indexes and actions steps to reduce radiation exposure to patients. Finally, students will identify at least five action steps to identify and measure radioactive contamination.

Scoring and evaluation will be conducted using the PSLO #1 rubric following this narrative. Four criteria will be evaluated for each student using this rubric and a measurement scale of 1-4. The minimum acceptable performance will be 80% of students scoring 3 or higher.

This assessment will be conducted in all three levels of student education and training. For the fourth year of training, students in their fourth year of externship training in the NMT 410 Externship course will be evaluated by Indirect Student exit surveys performed by a variety of clinical instructors as well as a variety of locations and hospitals. This should allow us to identify trends based on a cross section of evaluators and sites.

Target performance criteria will be 80% of students scoring a 3 or higher. This is consistent with our performance criteria of at least a cumulative score of 80% on our lab practical evaluations administered in each of our programmatic courses at the end of each term.

Performance will be evaluated by the instructor of that course as well as an instructor not teaching that course, but in the MIT department. Results will be compared to the last time this PSLO was evaluated, 2015-2016. Results will be discussed and reviewed with both NMMIT faculty. Both NMMIT faculty will investigate and discuss causes for any unacceptable results, and implement a remediation plan to include re-assessment.

EXAMPLE: (Format is not mandatory, but is meant for guidance. Choose the approach that works for your program).

PSLO 1: Klamath Falls Campus, NMT 215, NMT 312, NMT 410, Rick Hoylman & Vanessa Bennett					
PSLO 1: The student will demonstrate knowledge and application of radiation safety precautions and ALARA concepts by didactic examination and laboratory practical assessment.					
Performance Criteria	**Assessment Methods**	**Measurement Scale**	**Minimum Acceptable Performance**	**Results 2015-2016**	**Results 2018-2019**
The student will identify (5) actions or steps that can be taken to reduce radiation exposure to themselves in a Nuclear Medicine department.	Student essay/Rubric	1-4 according to attached criteria	80% of students scoring 3 or higher	100%	
The student will list the requirements for what constitutes level I, II, and III transportation index.	Student essay/Rubric	1-4 according to attached criteria	80% of students scoring 3 or higher	100%	
The student will identify (5) actions or steps that can be taken to limit or reduce unnecessary radiation exposure to their patients.	Student essay/Rubric	1-4 according to attached criteria	80% of students scoring 3 or higher	100%	
The student will list (5) steps to take to identify or measure radioactive contamination within a Nuclear Medicine department.	Student essay/Rubric	1-4 according to attached criteria	80% of students scoring 3 or higher	100%	

Students in both the NMT 217 course offered fall term, and NMT 312 course offered Winter term in our curriculum map, will receive a Direct Assessment Ethical Reasoning Assignment. This assignment will ask students to identify various

ethical codes of conduct consistent with our discipline and our registry organizations: The American Association of Radiologic Technologists (ARRT) and/or the Nuclear Medicine Technology Certification Board (NMTCB). The assignment will then present a scenario the student may face while on externship. The student will be asked to identify and describe the ethical issue(s) using the code of ethics. The student will describe the party or parties involved and discuss their point of view. The student will also describe possible or alternate approaches to the issue(s). The student will choose and defend one of the approaches they think is most appropriate.

Scoring and evaluation will be conducted using the PSLO #2 rubric/ELSO 3 rubric following this narrative. Four criteria will be evaluated for each student using this rubric and a measurement scale of 1-4. The minimum acceptable performance will be 80% of students scoring 3 or higher.

This assessment will be conducted in all three levels of student education and training in the NMMIT program. In addition to the Direct Assessment approach in the NMT 217 and NMT 312 courses, students in their fourth year of externship training in the NMT 410 Externship course will be evaluated by Indirect Student exit surveys performed by a variety of clinical instructors as well as a variety of locations and hospitals. This should allow us to identify trends based on a cross section of evaluators and sites.

Target performance criteria will be 80% of students scoring a 3 or higher. This is consistent with our performance criteria of at least a cumulative score of 80% on our lab practical evaluations administered in each of our programmatic courses at the end of each term.

Performance will be evaluated by the instructor of that course as well as an instructor not teaching that course, but in the MIT department. Results will be compared to the last time this PSLO was evaluated, 2015-2016. Results will be discussed and reviewed with both NMMIT faculty. Both NMMIT faculty will investigate and discuss causes for any unacceptable results, and implement a remediation plan to include re-assessment.

PSLO 2: Klamath Falls Campus, NMT 217, NMT 312, NMT 410, Rick Hoylman & Vanessa Bennett					
PSLO 2: The student will demonstrate ethical reasoning through a variety of scenarios in lecture and lab, and adherence to professional responsibilities identified on their Professional Evaluation performed at the end of the term.					
Performance Criteria	**Assessment Methods**	**Measurement Scale**	**Minimum Acceptable Performance**	**Results 2015-2016**	**Results 2018-2019**
Theory: Student demonstrates knowledge of different ethical theories and codes.	Ethics assignment evaluated by course instructor using Oregon Tech's Ethics Rubric.	1-4 according to attached criteria	80% of students scoring 3 or higher	100%	
Recognition: Student can recognize decisions requiring ethical judgments.	Ethics assignment evaluated by course instructor using Oregon Tech's Ethics Rubric.	1-4 according to attached criteria	80% of students scoring 3 or higher	100%	
Logic: Student demonstrates knowledge of the logic of ethical reasoning.	Ethics assignment evaluated by course instructor using Oregon Tech's Ethics Rubric.	1-4 according to attached criteria	80% of students scoring 3 or higher	100%	
Judgment:	Ethics assignment evaluated by	1-4 according to attached criteria	80% of students scoring 3 or higher	100%	

Student can make and support plausible ethical decisions.	course instructor using Oregon Tech's Ethics Rubric.				
ESLO 3: Klamath Falls Campus, NMT 312, Rick Hoylman					
ESLO 3: Oregon Tech students will make and defend reasonable ethical judgments.					
Performance Criteria	**Assessment Methods**	**Measurement Scale**	**Minimum Acceptable Performance**	**Results**	
Theory: Student demonstrates knowledge of different ethical theories and codes.	Ethics assignment evaluated by course instructor using Oregon Tech's Ethics Rubric.	1-4 according to attached criteria	80% of students scoring 3 or higher		
Recognition: Student can recognize decisions requiring ethical judgments.	Ethics assignment evaluated by course instructor using Oregon Tech's Ethics Rubric.	1-4 according to attached criteria	80% of students scoring 3 or higher		
Logic: Student demonstrates knowledge of the logic of ethical reasoning.	Ethics assignment evaluated by course instructor using Oregon Tech's Ethics Rubric.	1-4 according to attached criteria	75% of students scoring 3 or higher		
Judgment: Student can make and support plausible ethical decisions.	Ethics assignment evaluated by course instructor using Oregon Tech's Ethics Rubric.	1-4 according to attached criteria	75% of students scoring 3 or higher		

OREGON TECH PROGRAM ASSESSMENT REPORT RUBRIC			
1 – Beginning	**2 – Developing**	**3 – Good**	**4 – Exemplary**
Valid relationship between outcomes and assignment			
Seemingly no relationship between outcomes and assignment.	At a superficial level, it appears the assignment assessed by the measures matches the outcomes, but no explanation is provided.	General detail about how outcomes relate to assignment is provided. For example, the faculty wrote items to match the outcomes, or the instrument was selected "because its general description appeared to match our outcomes."	Narrative describes assignment and its alignment with outcomes, including providing the assignment in an appendix. Assignment appears to be a natural feature of the course and not inserted arbitrarily. Report describes assignment (including fit with class context) in sufficient detail to see that it is a natural feature of the course (not inserted arbitrarily) and is a

			reasonable way to assess that outcomes.
Valid relationship between outcomes and rubric			
Seemingly no relationship between outcomes and rubric. (No indication of rubric being used.)	At a superficial level, it appears that an appropriate rubric is used to assess the outcomes, but no explanation is provided.	Some detail concerning the rubric's appropriateness is provided, but description doesn't fully justify the appropriateness of the rubric to evaluation of the outcome and for the course context.	Rubric is provided and shows clear alignment between outcome and rubric elements. Detail provided regarding outcome-to-rubric match. Rubric is used to provide feedback to students (isn't totally disjoint from class goals and feedback).
Types of Measures: 2 Direct, 1 Indirect			
No measures indicated	Most objectives are not assessed via direct measures (only with indirect measures).	Most objectives assessed with at least one direct measure and one indirect measure.	All objectives assessed using at least two direct measures (e.g., tests, essays) and one indirect measure.
Alignment of assessment across sites/modes			
No discussion of alignment of assessment processes across sites.	Report includes data from all sites where the program is offered.	Reports includes data for each outcome from all sites where the program is offered.	Similar measures are used at all multiple sites/modes where program is offered. Differences in methodology between sites are clearly justified. [Or: Program is only at one site/mode.]
Specification of desired results for objectives			
No desired results for objectives stated.	Statement of desired result in qualitative terms (e.g., student growth, comparison to previous year's data, comparison to faculty standards, performance vs. a criterion), but no specificity (e.g., students will grow; students will perform better than last year).	Desired result specified quantitatively (80% of our students will score a "Proficient" or "Highly Proficient" on rubric, our students will gain ½ standard deviation from junior to senior year). Desired result is not justified. ("Gathering baseline data" is acceptable for this rating.)	Desired result specified AND justified (e.g., "Last year the typical student scored 20 points on measure x. The current cohort underwent more extensive coursework in the area, so we hope that the average student scores 22 points or better.")
Data collection and research design			
No information is provided about data collection process or data not collected.	Limited information is provided about data collection such as who and how many took the assessment. (e.g. term and number of students), but not enough to judge the veracity of the process.	Enough information is provided to understand the data collection process, such as a description of the sample size, scoring protocol (who scored student work), and course conditions (student motivation to participate). Nevertheless, methodological flaws are	The data collection process is clearly explained (e.g. term, number of students, and is appropriate to the specification of desired results (e.g., representative sampling, adequate motivation).

		evident such as unrepresentative sampling.	
Reliability evidence			
No additional psychometric or reliability data provided.	Report identifies process for scoring (e.g. identifies raters).	Reliability estimates (inter-rater comparisons) provided for some scores, or an externally validated rubric used. Reports states how efforts have been made to improve reliability (e.g., raters were trained on rubric).	Reliability (inter-rater comparisons) used for all scoring, with clear evidence of both internal agreement. Or, externally validated rubric used with trained scorers and inter-rater agreement. (Raw data provided in an appendix.)
Presentation of results			
No results presented	Results are presented in summary form with respect to performance criteria. (e.g. "Students performance met our criteria.")	Results are presented, and they directly relate to the objectives and the desired results for objectives (e.g. 78% of students scored "Proficient" or "Highly Proficient," which fall below our desired results), but presentation is sloppy or difficult to follow. Statistical analysis may or may not be present. Raw data is not provided.	Results are presented, and they directly relate to objectives and the desired results for objectives, are clearly presented, and were derived statistical analyses, as appropriate. Raw data is provided in attachments.
History of Results			
No results presented	Only current year's results provided.	Past iteration(s) of results provided for some assessments in addition to current year's.	Past iteration(s) of results (e.g., a prior year's) provided for majority of assessments in addition to current year's.
Document how results are shared with faculty/stakeholders			
No evidence of communication of results to faculty and others.	Results from assessment provided to limited number of faculty or communication process with program faculty is unclear (not in minutes)	Results from assessment provided to all faculty, and mode (e.g. program meetings, e-mails) and details of communication are clearly described (The discussion highlights are documented).	Information provided to all faculty, mode and details of communication clear. In addition, information shared with others such as advisory committees, other stakeholders, or to conference attendees (discussion highlights documented along with additional assessment recommendations).
Interpretation of results			
No interpretation attempted	Limited narration of results. Interpretation attempted, but the interpretation does not refer back to the objectives or desired results of objectives. Or, the interpretations are clearly not supported by the	Some narration of assessment analysis and results. Interpretation of results seem to be reasonable inferences given the objectives, desired results of objectives, and methodology (only reviewed by a single faculty member).	A complete and clear narration and analysis of the assessment results. Interpretations of results seem to be reasonable given the objectives, desired results of objectives, and methodology. Plus, multiple faculty interpreted results (not just one person). And, interpretation includes discussion of context: how classes/ activities might have

	methodology and/or results.		affected results (Documents who reviewed the data and the comparison results between reviewers).

8. Evidence of Improvement in Student Learning.

If this is an outcome being assessed on your standard schedule, did you have past results from this outcome? If this is a specifically scheduled "closing the loop" assessment, how do this year's results compare with the results that prompted improvements?

Did you have past action plans? Can you say that data supports that those plans resulted in improvements?

Look backwards: Discuss the last time that outcome was assessed:

- Were changes recommended?
- Were those changes implemented?
- If so, was improvement seen?

The last time the ESLO/PSLO for Ethical Reasoning and PSLO #1 for Radiation Safety Precautions were evaluated was in the 2015-2016 Assessment report. All results were within acceptable ranges. No additional changes needed to be implemented.

OREGON TECH PROGRAM ASSESSMENT REPORT RUBRIC			
Closing the loop			
1 – Beginning	**2 – Developing**	**3 – Good**	**4 – Exemplary**
Mention is made of past curricular or programmatic changes carried out in response to prior assessment data. No evidence is provided to evaluate whether these changes resulted in improvements in student learning.	Some evidence is presented to suggest improvement in student learning in response to program modifications. Evidence is vague and/or not clearly presented.	Evidence, from direct measures, suggesting learning curricular and/or pedagogical modifications, RE assessed, and found that student learning improved. Lack of clarity regarding the interventions or methodological issues (unrepresentative sampling, concerns regarding student motivation, etc.) leave legitimate questions regarding the improvement interpretation.	Strong evidence, from direct measures, supporting substantive and/or pedagogical modifications, RE-assessed, and found that student learning improved. The rationale and explanation of the modifications leading to the change are clearly laid out. The methodology is of sufficient strength that most reasonable alternative hypotheses can be ruled out (e.g., sampling concerns, validity issues with instrument or student motivation). In essence, the improvement interpretation can withstand reasonable critique from faculty, curriculum experts, assessment experts, and external stakeholders.

9. Data-driven Action Plans: Changes Resulting from Assessment

EXAMPLE: (Format is not mandatory, but is meant for guidance. Choose the approach that works for your program).

Based on assessment results, identify any actions to be taken to improve student performance. Actions should be:

- Clearly tied to or informed by assessment results
- Specific; identifying courses, activities, or assignments where changes are to take place
- Identify responsible parties and specific timelines for actions.
- Identify a timeline for re-assessment following implementation of changes (this can be at the next time an outcome is scheduled for assessment in your program cycle)
- (Ideally, and where relevant) narrative should describe how the program will connect improvements to budgetary and/or strategic planning processes.

OREGON TECH PROGRAM ASSESSMENT REPORT RUBRIC			
Weaknesses result in action plans			
1 – Beginning	**2 – Developing**	**3 – Good**	**4 – Exemplary**
Outcomes are identified, but no improvement plans are outlined.	Some areas where performance is below targets results in plans to collect further data, program improvements, or assessment improvements.	All areas where performance is lower than targets result in either (1) plans to collect further data, (2) program improvements, or (3) assessment method improvements. [Or: no areas fall below performance thresholds.]	All areas where performance is lower than targets result in either (1) plans to collect further data, (2) program improvements, or (3) assessment method improvements. Additionally, further opportunities for program improvement are identified, whether based that exceed performance targets but are still weak, or other inputs.
Action plans are linked to assessment findings			
No mention of any improvements to program, curriculum, or courses.	Examples of improvements documented, but they are poorly described, and the link between them and assessment findings is not clear.	Plans to improve) are documented and directly related to the findings of assessment. However, improvements lack close ties with specific assessment findings, lack details, or are developed simply based on "best intuition" of program faculty.	Plans to make program, curricular, or course improvements or plans to improve) are documented and clearly relate to findings of assessment (e.g. specific criteria that fall below desired performance levels). Improvements draw upon knowledge of best practices in the field to maximize likelihood of success and make sense in the context of a rational, vertically-designed curriculum.
Plans for improvement of assessment.			
No recommendations in improving the program assessment practices.	Some critical evaluation of past and current assessment practices, including acknowledgment of flows. Minimal or surface-level	Critical evaluation of past and current assessment, including acknowledgement of flaws. Some evidence of recommendations for	Critical and specific evaluation of past and current assessment, including acknowledgement of flaws. Detailed recommendations for the improvement of the assessment practices in the

	recommendations in improving the program assessment practices.	revision improving the program assessment practices.	program (changing methodology, collecting supplementary data, etc.) are outlined, drawing upon insightful and specific analysis of flaws in past assessment and best practices in academic assessment.
Accountability on improvement			
No information is there on how the modifications will be re-evaluated, when and by whom.	Incomplete information is included on implementation timelines, responsible parties, and re-assessment plans.	Most information on implementation plan is included (timeline, responsible parties, re-assessment schedule) is included.	All modifications include timeline for implementation, names of responsible parties, and identify when re-assessment will occur (whether at the next time the outcome comes up in the assessment cycle or sooner).
Planning/budgeting alignment.			
No attempt at aligning improvement plans with planning and budgeting processes. No recognition or discussion of resource needs to implement improvement plan.	Minimal or vague attempt at integrating improvement plans and planning and budgeting processes. (Acknowledgment that resources may be required, but doesn't specify or quantify then.)	Meaningful attempt at integrating improvement plans and planning and budgeting processes. Plan begins to quantify resource needs.	Clear and extensive improvement plan articulates needed resources and implementation plan explicitly feeds in to planning and resource request processes (e.g. staffing, equipment, etc.).